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by

L. F. Shumitskaya, M. L. Gd'dfarb and V. K. Tuzova

Translation of the article Steclo Ustoichivoye k Param Shchelochnych Metallov from Patent Publication of the USSR, I. 22, 1966, Bulletin N.3, Moscow.

# GLASS IMMUNE TO FUMES OF ALKALI METALS

L. F. Shumitskaya, M. L. Gd'dfarb and V. K. Tuzova

Certain glass containing $SiO_2$, $B_2O_3$, $Al_2O_3$, CaO and SrO immune to fumes of alkali metals, due to special viscous properties cannot be worked out mechanically in the form of tubes and is applied as a protective layer to the inner surface of tubes made of ordinary silicate glass, i.e., it happens to be superposed.

These deficiencies are eliminated in the described glass. This is accomplished due to the fact that the indicated components introduce into the glass structure percent by weight, in the following quantities: $SiO_2$ 12±2, $B_2O_3$ 32±2, $Al_2O_3$ 32,5±2, CaO 20±1,5, SrO 3,5± ±1,5 and besides it contains not more than 0,03% $Fe_2O_3$.

The described glass does not crystallize during founding and working, it can be worked out well in the flame of a torch, articles with the 0.2 - 0.4mm thickness of the wall can be made out of it, and it can be vacuum soldered together with Kovar and molybdenum.

The glass softening temperature is..... 665 - 680°C.
Tangent of the angle of dielectric waste during $10^{10}$ and 20°C..... 50.0 - 53.0
Dielectric permittivity during $10^{10}$ and 20°C.. 6.9 - 7.1
Translucence after soaking in sodium fumes during 400°C in the course of 7 hours..... 80 - 85¢

The subject of invention glass immune to fumes of alkali metals, on the base $SiO_2$, $B_2O_3$, $Al_2O_3$, CaO, SrO, is characterized by this, that, in order to secure a mechanized output of the glass by obtaining articles without superposition, the indicated components introduce into the glass structure percent by weight in the following amounts: $SiO_2$ 12±2, $B_2O_3$ 32±2, $Al_2O_3$ 32,5±2, CaO 20±1,5, SrO 3,5±1,5 and, besides it contains not more than 0.03% by weight $Fe_2O_3$.

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